



Review Article

SOME IMPORTANT AYURVEDIC HERBAL DRUGS FOR THE MANAGEMENT OF MENTAL ILLNESS IN CHILDREN

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ABSTRACT

Ayurveda is holistic medical system of science of life and knowledge Vedas. It explains human body is combination of physical structure and mental behavior. Mental illness interchangeably knows as psychological disorder. In this context Ayurveda, mention psychological disorder like *Apsmara* and *Unmada*. Other condition like *Atattvaabhinivesha*, *Bhaya*, *Harsha*, *Shoka*, *Udvega* and *Avasada* are included in mental disease. Therefore, ADHD, Dyslexia, Autism and Mental retardation are correlated with sign and symptoms of these conditions. Some symptoms are seen through unbalancing *Tridosha*, aggravating *Doshas* and *Trigunas* (*Satva*, *Raja*, *Tama*). In Ayurvedic pharmacology described about *Vacha*, *Mandukaparni*, *Bramhi*, *Shankhapushpi*, *Jatamasi*, *Jyotismati* and *Kushmanda* are effective in mental illness due to their *Medhya*, *Smritivardhaka*, *Sangyasthapaka* and *Rasayana* properties. Experimental and clinical researches also mention these drugs are helpful for the treatment of mental illness or psychological disorder. Keeping this fact in view, an effort has been arranged to collect the information related to Ayurvedic Herbal drug from different Samhitas, Nighantu and Ayurvedic pharmacology books and other texts, regarding its therapeutic uses in mental illness and related condition. Present information is key point and facts may help the researchers to develop treatment modality for mental illness in children through Ayurveda.

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INTRODUCTION

Now a day's psychological disorders are very common childhood age and this condition is increasing day by day. The term mental illness is uses interchangeably with psychiatric problems. Children with rational disability and individuals with unremitting substantial poor health that involves the brain have a drastically augmented risk of initial a range of affecting and behavioural inconvenience. Psychological disorders fatally interrupt communal improvement and can cause extensive term mental health problems. Ayurveda is oldest therapeutic modality in the world. Ayurveda is Sanskrit word and it is combination of two words 'Ayu' means meaning of life and 'Veda' means knowledge. Ayurveda is derived from *Atharveda* and it has called as 'Upaveda' of *Atharveda*. Acharya Sushruta define the health, One is in perfect health

when the three *Doshas Vata*, *Pitta* and *Kapha*, *Agni* (Digestive fire), seven *Dhatus* and three *Malas* are in perfect order with a satisfyingly willing and contented mind, senses and strength.^[1] Man is an organization of the mind, the soul, the body and the senses. Treatment in Ayurveda focuses on treating both the mental illness and physical because they are inter-related. Ayurvedic medicines bring an overall change in the patient whereas other medical sciences works only on the specific symptoms of the disorder. Ayurveda emphasizes traditional food, lifestyle and additionally includes yoga, exercise and herbal remedies. These are certified as an alternative treatment that not only involves the treatment of physical and psychological disorders, but also brings changes in the lifestyle of the person to get the niche from future diseases. These include

psychological senses, which are called sensory organs, and body parts called *Karamandrias*. The communication of these primary components governs the person's health.

Manas is made up of three functional qualities: *Sattva*, *Raj* and *Tama*. These properties are defined as the element of a person i.e. the character. *Sattva* is a set of good things—understanding of self-control, knowledge, right and wrong in life. *Raj*'s qualities are dynamic, violence, jealousy, authority; desire and dilemma come into it. The attributes of *tam* properties are lethargy, inactivity, sleepiness and absurdity. In these properties, *Raj* and *Tam* are underlined in the form of mood. *Sattva*, *Raj* and *Tama* are responsible for diseases which are called psychosis.

Ayurveda includes herbal, herbo-minerals, *Rasayana* therapy *Shodhan-Shaman* therapy, specific food supplementation, meditation and yoga for the treatment of physical and psychological disorder.

Psychological disorder in children listed below-

- 1. ADHD:** Attention deficit hyperactivity disorder (ADHD) is an intellectual anarchy of the neuro-development variety. It is pigeonholed by inconvenience paying concentration, disproportionate movement, or complexity controlling performance that is not proper for a people age. The symptoms become visible prior to a person is 12 years old, are nearby for additional than six months, and cause struggle in at least two settings (such as school, home, or recreational activities). In children, inconvenience-paying notice may consequence in poor school routine. Even though it causes destruction, predominantly in recent civilization, many offspring with ADHD have a fine awareness period for responsibilities they discover fascinating. [2]
- 2. Dyslexia:** Dyslexia, also acknowledged as reading disorder, pigeonholed by difficulty with reading regardless of typical intellect. Unlike individuals are exaggerated to altering degrees. Trouble may comprise problems in spelling words, reading rapidly, writing words, "sounding out" words in the head, pronouncing words when reading audibly and thoughtful what one reads. Frequently these problems are initial noticed at school. Once somebody who earlier possibly will read loses his or her capacity, it is known as alexia. The problems are automatic and people with this disorder aspire to learn. [3]
- 3. Mental Retardation:** Mental retardation is a term for a example of constantly deliberate

learning of fundamental motor and language skills ("milestones") throughout childhood, and an extensively substandard universal academic competence as an adult. One ordinary norm for analysis of mental retardation is an experienced intelligence quotient (IQ) of 70 or below. [4]

- 4. Autism:** Autism is a developmental disorder categorized by dilemma with communal interface and communication, and by limited and cyclical performance. Parents regularly observe signs in the primary two or three years of their child's life. These signs often extend progressively, however a few children among autism achieve their developmental milestones at a typical speed and then deteriorate. [5]

Prevalence of psychological disorder:

- 1. ADHD:** ADHD affect about 5–7% of children when diagnosed via the DSM-IV criteria and 1–2% when diagnosed via the ICD-10 criteria. 2015 it is estimated to affect about 51.1 million people. [6]
- 2. Dyslexia:** Depending on the definition used, 5% to 10% of the population is considered to have dyslexia. [7]
- 3. Mental retardation (MR):** World Health Organization estimates that 10% of the 1 world's population has some form of disability. Mental retardation (MR) is one form of disability and affects 1-3% of human population. [8]
- 4. Autism:** About 1 percent of the world population has autism spectrum disorder. (CDC, 2014) [9] At least 70 million individuals worldwide have Autism, 10 million in India" India itself. With one in 68 children being diagnosed with Autistic Spectrum Disorder (ASD) in India. [10] Japan was estimated to have the highest rate of autism along with approximately 161 children per 10,000 with the disorder.

Material and method

This study was done by compiling the conventional Ayurvedic narrative, Ayurvedic Pharmacology (*Dravyaguna*) and *Nighatu*, magazines and research journals used for the exploration of applicable literature. Based on the collected information, an analysis was done to know the effectiveness and apparent manner of action of on mental disorder of Ayurvedic drug.

Ayurveda has described various kinds of mental Disorders like *Unmada* (Insanity), *Apasmara* (Epilepsy), *Atattvaabhinivesha* (Obsessive Disorders), *Bhaya* (Fear), *Harsha* (Excitation),

Shoka (Grief), *Udvega* (Anxiety) and *Avasada* (Depression).^[11]

Management of psychological disorder by Ayurvedic herbal drug therapy

Ayurvedic herbal drug work through balance *Tridosha* and proved very useful against psychological disorders. Ayurvedic herbal drug is plant drugs which anticipation for treatment of mental disorders. The different studies were conducted to enhance mental performance of children by improving their reaction different herbs were significantly effective in improving total mental performance. Ayurveda believes a different view

regarding cognitive processes and theories of information processing, therefore possesses new approaches for management of disorders of cognition. The Ayurvedic drug are listed below.

1. *Vacha* (*Acorus calamus* Linn)^[12]
2. *Mandukparni* (*Centella asiatica* (Linn) Urban)^[13]
3. *Bramhi* (*Bacopa monnieri* (Linn) Pennell)^[14]
4. *Shankhapushpi* (*Convululus pluricaulis* Chois)^[15]
5. *Jatamasi* (*Nardostachys jatamasi* DC)^[16]
6. *Jyotishmati* (*Celastrus paniculatus* Wild)^[17]
7. *Kushmanda* (*Benincasa hispida* (Thumb) Cong)^[18]

Ayurvedic pharmacodynamic drugs: shown in table 1.

Table No. 1: Ayurvedic pharmacodynamic Drugs

Sr. No.	Dravya	Rasa	Virya	Vipaka	Prabhava	Guna	Doshika Karma	Action
1.	<i>Vacha</i>	<i>Katu Tikta</i>	<i>Ushna</i>	<i>Katu</i>	<i>Medhya</i>	<i>Laghu tikshna</i>	<i>Kapha-vata shamaka</i>	<i>Vedanasthapaka</i>
2.	<i>Mandukparni</i>	<i>Tikta</i>	<i>Ushna</i>	<i>Katu</i>	<i>Medhya</i>	<i>Laghu</i>	<i>Kapha-pitta shamaka</i>	<i>Smurtishakti vardhaka</i>
3.	<i>Bramhi</i>	<i>Tikta</i>	<i>Ushna</i>	<i>Katu</i>	<i>Medhya</i>	<i>Laghu</i>	<i>Kapha-Vata shamaka</i>	<i>Manas Roga</i>
4.	<i>Shankhapushpi</i>	<i>Tikta</i>	<i>Shita</i>	<i>Madhura</i>	<i>Medhya</i>	<i>Snigdha, picchil</i>	<i>Tridoshahar - vata-pitta shamak</i>	Increase the strength of brain and neuron
5.	<i>Jatamasi</i>	<i>Tikta Kashaya Madhura</i>	<i>Shita</i>	<i>Katu</i>	<i>Bhutaghna (Manasado shahara)</i>	<i>Laghu Shnigdha</i>	<i>Tridoshahara</i>	<i>Vedannashthapak</i>
6.	<i>Jyotishmati</i>	<i>Katu, Tikta</i>	<i>Ushna</i>	<i>Katu</i>	<i>Medhya</i>	<i>Tikshna</i>	<i>Vata-Kapha Shamaka</i>	Increases <i>Smarana Shakti</i>
7.	<i>Kushmanda</i>	<i>Madhura</i>	<i>Shita</i>	<i>Madhura</i>	<i>Medhya</i>	<i>Laghu Shnigdha</i>	<i>Vata-Pitta Shamak</i>	Increases <i>Medha Shakti</i>

Various researches on Drugs

1. *Vacha*

A. *Vacha* specially targets the nervous coordination and treats intellectual stress, sluggishness, and emotional discrepancy, forgetfulness, and any attention deficit disorders. *Vacha* acts like a medication for mental stagnation of every degree. It awakens dormant intellectual functions that when stationary can reason misery, unhappiness, *cerebral handicap*.^[19]

B. The Ayurvedic formulation (combination of *Vacha*, *Haridra* (*Curcuma longa*), *Hingu* (*Ferula assa-foetida*) and *Rudraksha* (*Elaeocarpus ganitrus*) was very effective over psychological factors like cognition and mood followed by psychomotor factors.^[20]

C. *Vacha* possesses marked antidepressant effect but the anxiolytic effect of *Vacha* is not marked,

and *Vacha* did not produce any significant change in 5-HT_{1A} receptor sensitivity.^[21]

2. *Mandukparni*

A. Improvement in academic performance and IQ was observed in single blind study of fifth standard students of a rural area in Southern India.^[22]

B. *Mandukaparni* significant improvement in performance IQ.^[23]

3. *Bramhi*

A. *B. monniera* significantly improved learning and memory.^[24]

B. *Bacopa monnieri* tested on memory of medical students with six weeks' administration showed that statistically significant improvement in the tests relating to the cognitive functions.^[25]

C. *B. monniera* may improve higher order cognitive processes that are critically

dependent on the input of information from our environment such as learning and memory. [26]

D. Normal school age children receiving *Bacopa*, at the end of trial their attention, concentration and memory tested. Children having significantly improved mean reaction time (auditory and visual). [27]

4. *Shankhapushpi*

A. *Shankhapushpi* act on the central nervous system, especially for boosting memory and improving intellect. [28]

B. *Shankhapushpi* improve memory function due to its Antioxidant and Acetylcholinesterase Inhibitory Properties. [29]

C. *Shankhapushpi* have the possible to propose a considerable progress in children suffering from dyslexia. [30]

D. *Shankhapushpi* Syrup is helpful in learning problem, lack of concentration, ADHD (Attention deficit hyperactivity disorder) and Delay brain milestones in children. [31]

5. *Jatamasi*

A. *Jatamasi* used in Autism Spectrum Disorders (ASD) as single drug therapy. [32]

B. *Jatamasi* have been scientifically evaluated by using animal model to find out such a narrative Anti-anxiety mediator, which possibly will be competent to alleviate anxiety disorder. [33]

C. Ethanolic extract of the roots of *N. Jatamansi* was studied for its anticonvulsant activity. [34]

6. *Jyotishmati*

A. Seed oil has been found to be beneficial to psychiatric patients; and increased the intelligence quotient of mentally retarded children. [35]

B. Seed oil: Used to stimulate intellect, sharpen memory and facilitate learning, works as a powerful brain tonic and improve in IQ of mentally retarded children. [36]

C. *Jyotishmati* act as a memory enhancer for getting better mental power, it also improves attentiveness, awareness, and other cognitive functions. *Jyotishmati* may act on acetylcholine level in the brain, which enhances the cognition. [37]

7. *Kushmanda*

A. *Kushmanda* methanol extract showed nootropic effect and anti-amnesic effect in model of memory (spatial working memory and long term memory) and latency test respectively. [38]

B. Contains of *Kushmanda* are responsible for antioxidant activity, anti-stress activity, memory enhancing activity. [39]

Ayurvedic properties and uses in various diseases:

1. **Vacha:** Ghee prepared with *Vacha*, *Bramhi* *Swaras*, *Kustha* (*Saussurea lappa* Linn) and *Shankhapushpi* alleviates *Apasmara* (Epilepsy). [40] Regular intake of ghee cooked hundred times with *Vacha* (*As Rasayana*) makes one long-lived and free from disease and used in *Galaganda*, *Apachi*, *Shlipada*, and *Swarabheda*. [41] *Vacha* used in treatment of *Apsmara*, *Unmada*, *Krimi* and disease from *Vata Dosha*. [42] If the patient suffering from *Apsmara*, powder of *Vacha* and *Madhu* taken with milk and rice. (*Madhu-Vacha Yoga*). [43]

2. **Mandukparni:** *Mandukparni* is taken as a *Rasayana* drug. [44,45] Intake of *Mandukparni* fried in *ghruta* for s month with *Pathya Ahara* acts as a *Rasayana*. [46]

3. **Bramhi:** Honey mixed with *Bramhi*, *Vacha*, *Shankapushpi*, *Endri*, gave first feeding for neonate [47] *Bramhi* is the best remedy for *Unmada* and *Apsmara* (Epilepsy). [48] *Bramhi Rasayana*. [49] *Swarasa* (Juice) of *Bramhi*, *Kushmanda*, *Vacha* and *Shankhapushpi* taken with *Madhu* and powder of *Kushta* (*Saussurea Lappa*) for *Unmada* (*Bramhiyadi Swarasa*). [50]

4. **Shankhapushpi:** *Medhya Rasayana*. [51] *Ghruta* prepared with three time *Shankhapushpi Swaras* (juice) and taken with milk regularly. This *Ghruta* improve dullness, sharpness and intelligence. [52] *Shankhapushpi* is *Medhavaradhaka*, increase *Smruti*, *Rasayana* drug and alleviate *Apsmara*, *Kushtha* (Skin disease) and *Krimi*. [53]

5. **Jatamasi:** An infant who is fed on milk should be given *Ghruta* processed with *Jatamasi*, *Vacha*, *Payasa*, *Apamarga* (*Achyranthes aspera*), *Satavari* (*Asparagus racemosus*), *Sariva* (*Hemidesmus indicus*), *Bramhi*, *Pippali* (*Piper longum*), *Haridra*, *Kushta* and rock salt. [54] Powdered root of *Jatamasi* taken with milk for treatment of *Unmada*. [55] *Jatamasi* increase *Medha*, *Kanti* (Complexion) and *Bala* (strength). [56] *Jatamasi* is effective medicine on headache and insomnia. [57]

6. **Jyotishmati:** Increases the strength *Medha*, *Buddhi* and *Pragya*. [58] *Jyotishmati* have *Medhya*, appetite stimulant and emetic properties. [59] *Jyotishmati* pacify *Kapha* and *Vata*. In *Vatavyadhi* *Jyotishmati* oil used for *Abhangya*. It is increase *Medha* and *Buddhi*. [60] The oil of

Jyotishmati is rubefacient, seeds are alterative, stimulant and nervine; seeds and oil stimulate intellect and sharpen memory.^[61]

7. **Kushmanda:** *Ghruta* prepared with eighteen time *Kushmanda Swaras* with the paste of *Madhuyasti* (*Glycyrrhiza glabra*) alleviates epilepsy and promote intellect, speech and voice.^[62] Powder of *Kushmanda* root taken with warm water alleviates asthma and cough immediately.^[63] *Kushmanda* is the best amongst all the fruits obtained from various climbers and creepers. It's give strength, anthelmintic (*Krimihara*), used in mental disorder.^[64]

DISCUSSION

Ayurvedic herbal drugs play an important role in the management of mental illness in children. The management involves the individual to attain sedation, peacefully, equanimity or an encouragement of performance of brain. *Vacha* treats any attention deficit, medication for mental stagnation disorders and antidepressant effect. *Mandukaparni*, *Bramhi* and *Shankhapushpi* have enhancement in performance IQ. *Jyotishmati* seed valuable to psychiatric patients and mentally retarded children. *Jyotishmati* act on acetylcholine level in the brain, which enhances the cognition. *Kushmanda* methanol extract showed nootropic effect and contains of *Kushmanda* are responsible for antioxidant activity, anti-stress activity, memory enhancing activity. Based on the experimental and clinical research, it is known that these drugs have effective in mental illness in children. Among of these drug some of having *Rasayana* properties. *Rasayana* drugs are used for prevention and treatment of mental disorders children. In addition, these drugs improve the immunity and body makes fight against immunological disorder. *Rasayana* drugs are known to have specific effect on mental performance and these drugs promote the Intellect (*Dhi*) Retention power (*Dhriti*) and memory (*Smriti*). It is help pacify the unbalancing *Doshas* and disturbances of "*Raj*" and "*Tam*". Ayurvedic herbal drug promoting the functions of *Buddhi* and *Manas*. In Ayurvedic samhita, text book and pharmacopeia mention *Vacha*, *Bramhi* and *Shankhapushpi* effective on *Apasmara* (Epilepsy), improve voice and sharpen memory. *Jatamasi* increase *Medha*, stimulate intellect and sharpen memory. *Jyotishmati* oil used in *Vatavyadhi* for *Abhangya* gave muscle relaxant properties. *Kushmanda* root relieve asthma, give strength, used in mental disorder. With the help of properties, consider that these drugs are very effective for treatment of mental disorder in children.

CONCLUSION

In Ayurveda based on sign and symptoms of ADHD, it is a *Vata-Pitta* predominant disorder. Dyslexia is not following and multifarious interaction of *Indriyas*, *Indriyarthas*, *Mana*, *Atma* and *Buddhi*. The word *Jadata* mentioned in Ayurvedic texts can be correlated with mental retardation. *Manas* and *Buddhi* is not properly function and co-ordination in Autism with imbalance of *Tridosha*, *Satva Raja* and *Tama Gunas*. *Vacha*, *Mandukaparni*, *Bramhi*, *Shankhapushpi*, *Jatamasi*, *Jyotishmati* and *Kushmanda* are possibly relived sign and symptoms of psychological disorder. Today in spite of advancements in contemporary medical science limited option for mental illness. Ayurvedic herbs offer admirable options for management of ADHD, Dyslexia, Autism and Mental retardation. Ayurvedic herbal drugs for treatment of mentally ill children may be more effective. Thus, more researches are needed to investigate Ayurvedic herbal drugs worldwide for improving such type of mental disorder and their less adverse effects.

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